

Claims

[c1] 1. A hose clamp installation tool comprising:

- a tubular housing having a distal end;
- a hook disposed on the distal end for engaging a clamp;
- a first rod disposed within the tubular housing having a first end adjacent to the hook for engaging the clamp to release the clamp from an open position and allow the clamp to shift to a closed position;
- a piston attached to a second end of the first rod for driving the first rod into engagement with the clamp;
- a trigger actuated by the clamp when the clamp is shifted from the open position to the closed position;
- a second rod located adjacent to the trigger that moves in response to actuation of the trigger when the clamp is released;
- a spool disposed around the first rod and in contact with the second rod;
- a first spring that biases the first rod to return to an initial position;
- a second spring that biases the spool to a start position
- a first sensor that detects a position of the first rod; and
- a second sensor that detects movement of the spool and indicates release of the clamp.

- [c2] 2. The hose clamp installation tool of claim 1 wherein the first sensor and the second sensor are proximity switches.
- [c3] 3. The hose clamp installation tool of claim 1 wherein the tubular housing is rotatably connected to a handle for radially positioning the hook relative to the handle.
- [c4] 4. A hose clamp installation tool comprising:
 - a tubular housing having a distal end;
 - a hook disposed on the distal end for engaging a clamp;
 - a first rod disposed within the tubular housing having a first end and a second end, the first end disposed adjacent to the hook for engaging the clamp to release the clamp from an open position and allow the clamp to shift to a closed position and the second end disposed opposite the first end;
 - a sensor disposed adjacent to the second end that detects force applied when the first end engages the clamp and indicates release of the clamp when no force is detected; and
 - a pneumatic actuator disposed adjacent to the sensor that forces the first rod into engagement with the clamp.
- [c5] 5. The hose clamp installation tool of claim 4 wherein the sensor is a load cell.

- [c6] 6. The hose clamp installation tool of claim 4 wherein the tubular housing is rotatably connected to a handle for radially positioning the hook relative to the handle.
- [c7] 7. A hose clamp installation tool comprising:
 - a tubular housing having a distal end;
 - a hook disposed on the distal end for engaging a clamp;
 - a rod disposed in a fixed position within the tubular housing having a first end and a second end, the first end disposed adjacent to the hook for engaging the clamp to release the clamp from an open position and allow the clamp to shift to a closed position and the second end disposed opposite the first end; and
 - a sensor adjacent to the second end that detects force when the first end engages the clamp and indicates release of the clamp when no force is detected.
- [c8] 8. The hose clamp installation tool of claim 7 wherein the sensor is a load cell.
- [c9] 9. The hose clamp installation tool of claim 7 wherein the tubular housing is rotatably connected to a handle for radially positioning the hook relative to the handle.